Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An RF module having ground electrodes facing each other and a plurality of through holes bringing the ground electrodes into conduction, in which an electromagnetic wave propagates by using a region surrounded by the ground electrodes and the through holes,

wherein the plurality of through holes are arranged so as to satisfy the following conditional expression (A) where d denotes an interval between centers of neighboring through holes and r indicates a radius of each of the through ~~holes.~~holes

~~2.0r < d < 10.0r~~3.6r <d <4.0r ..... ~~(A)~~(A-1).

2. (Currently Amended) An RF module according to claim 1, constructed as a resonator of which side wall is formed by the plurality of through ~~holes,~~holes.

~~wherein the plurality of through holes are arranged so as to satisfy the following conditional expression (A-1).~~

~~3.6r < d < 4.0r ..... (A-1)~~

3. (Currently Amended) An RF module according to claim 1, constructed as a transmission line of which side wall is formed by the plurality of through ~~holes,~~holes.

~~wherein the plurality of through holes are arranged so as to satisfy the following conditional expression (A-2).~~

~~3.6r < d < 10.0r ..... (A-2)~~

4. (Currently Amended) An RF module according to claim 1, ~~constructed as a resonator of which side wall is formed by the plurality of through holes,~~wherein the plurality of through holes are arranged so that attenuation of an electromagnetic wave in a non-propagation region between neighboring through holes is 20 dB or higher.

5. (Canceled)

6. (Original) An RF module according to claim 1, having a non-uniform electromagnetic wave intensity distribution,

wherein the plurality of through holes are arranged so that the higher the electromagnetic field intensity is in a region, the smaller a center interval "d" is with respect to the radius "r" of each through hole.

7. (Original) An RF module according to claim 1, wherein a frequency bandwidth of the electromagnetic wave is a range from 20 GHz to 120 GHz.

8. (Original) An RF module according to claim 1, wherein when a wavelength corresponding to a cut-off wavelength f0 of a frequency of at least a part of a frequency band used is $\lambda 0$,

$\lambda 0/4 < g$ (where $g = d - 2r$) is satisfied.

9-12. (Canceled)